

REMARKS

Claims 1, 3-7, 11-26 and 28-35, as amended, and new claims 36-39 appear in this application for the Examiner's review and consideration. Claims 2, 8-10 and 27 have been cancelled. Claims 11, 12, 15, 16 and 28 have been amended to correct dependencies due to the cancellation of claims 8-10 and 27, while claim 12 has been amended to further recite the turbulent mixing aspect of the invention and claim 32 was amended to avoid reciting multiple ranges. New claims 36-39 are directed to preferred features of the invention as previously recited in claim 32 or in the specification (see e.g., page 4). As no new matter has been introduced, these claims changes and additions should be entered at this time.

Claim 32 was rejected under the second paragraph of 35 USC 112 for the reason noted on page 2 of the action. In response, applicants have amended claim 32 and has added two dependent claims based on its original wording to overcome the rejection.

Claims 1-11, 17, 21, 24-28 and 35 were rejected as being anticipated by US patent 4,392,588 to Scalera, while claims 12-18 and 32-34 were rejected as being obvious over Scalera. Also, claims 18-20, 22, 23 and 29-31 were rejected as being unpatentable over the combination of Scalera and US patent 4,753,370 to Rudick. Reasons in support of these rejections appear on pages 2-4 of the action. Applicant traverses these rejections as to the amended claims.

Scalera relates to a nozzle assembly for cold drink merchandiser. The assembly comprises a body for positioning a central water supply pipe that directs a stream of water into a cup in a substantially vertical direction. At the periphery of the body are placed syrup nozzles which are positioned in a way to direct syrup streams toward the water stream. The water stream and syrup streams intersect at an intersection point above the cup.

The present invention provides a different structure and method than Scalera. The claims recite a particular nozzle arrangement or stream ejection method that was previously recited in claims 8-10 and that is simply not disclosed in Scalera. For this reason, the anticipation rejection of the claims based on Scalera has been overcome and should be withdrawn. In addition, it is respectfully submitted that there also should be no obviousness rejection due to the unexpected benefits provided the structure and method of the present claims.

The present invention not only provides uniform mixing of various liquid and product concentrate streams but also provides sufficient frothing to create froth on the top of the resulting product or beverage. In order to create this froth, it is necessary to provide sufficient

kinetic energy at the intersection point where the fluid and food component meet. The way the Scalera system is configured, it cannot produce the necessary kinetic energy to provide a froth because the stream of water is too large and not correctly positioned (as presently claimed). Scalera's water stream provides little energy when impacted by the syrup streams and is not able to create a froth. Of course, this is of no concern to Scalera since he is not trying to prepare a beverage that has a froth.

The present invention discloses a need for at least two water streams forming jets at an angle that are forced to impact at a certain velocity on the food component stream and not the opposite way. The resulting impact of this configuration of streams is such that it forms a fan-shaped spray cloud in direction of the cup (see page 4 and paragraph [0036] of the application). Scalera operates differently in that a large stream of water is poured in which a thin stream of syrup is mixed. Mixing occurs by the fact that syrup can dilute in a large water stream, but not much energy is involved at the intersection point. Furthermore, the velocity of Scalera's syrup is greatly limited by its viscosity. Therefore, a high velocity cannot be achieved and frothing of the beverage due to mixing alone cannot be obtained with his arrangement as it does in the present invention.

In addition, the direction of the water stream of Scalera can provide mixing only for low viscous syrups that have high dilution factors (i.e., low total solids in the final beverage). On the contrary, the present invention can produce frothed beverages within a wide range of viscosity and dilution factors (e.g., cappuccino beverages). Therefore, the invention works in a way opposite to that disclosed by Scalera in order to achieve a beneficial effect for generating a certain amount of stable froth (See Tables 1-2 of the present specification). This is accomplished by providing at least two fluid (or water) streams with sufficient energy to impact on the food component (e.g., a liquid concentrate stream). The streams are placed in a certain arrangement for ejecting the streams, such as at a certain angle between the fluid and food component streams, in order to both provide the best results on mixing and frothing and control the direction of the resulting stream mixture into the cup.

Therefore, providing two water streams instead of a single large stream and configuring the water streams differently with respect to the concentrate stream as presently claimed is not an obvious modification of Scalera. The skilled artisan obtains no knowledge or

motivation from Scalera to provide more than one large water stream and to configure the water ejection point closer to the vertical line than the ejection points of the syrup lines.

Applicants also traverse the rejection of claims 12-16 and 32-34. The recited features represent preferred engineering design implementations of the inventive system and method rather than a determination of these parameters by routine experimentation. The fact that the independent claims are not disclosed or taught by any prior art reference demonstrates that the preferred engineering design implementations recited in claims 12-16 and 32 could not have routinely determined by experimenting with a prior art system or method. Instead, the features of these dependent claims further define the patentable aspects of the present invention.

In view of the above, it is respectfully submitted that all claims are patentable over Scalera and the obviousness rejection should be withdrawn.

The Rudick patent was cited in combination with Scalera to reject certain claims. The fact that certain peristaltic pumps were previously known does not teach or suggest that they should be used in the device or method of the present invention. Furthermore, even if Rudick and Scalera are combined, a skilled artisan would not arrive at the presently claimed invention, since there would be only one water stream arranged as disclosed by Scalera. Rudick does not suggest any other arrangement so that he does not cure the deficiencies of Scalera. Instead, Rudick relates to the mixing of a beverage in a mixing nozzle and not in a free flowing state. Therefore, Rudick is not appropriate for a hygienic mixing or frothing of a beverage. For these reasons, the combination rejection based on Scalera and Rudick should be withdrawn.

Accordingly, the entire application is believed to be in condition for allowance, early notice of which would be appreciated. Should the Examiner not agree, then a telephonic or personal interview is respectfully requested to discuss any remaining issues and expedite the eventual allowance of the claims.

Respectfully submitted,

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